

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts are republished from reports for May, 1889, of the directors of the various state weather services:

ALABAMA.

SUMMARY.

Temperature.—The cool periods of the month were the 4th, 23d, and 31st. The last date was unusually cool for the season, producing in many sections a slight frost, but this frost was so slight that little damage was done to tender vegetation. The average temperature during the month was 3.8 below normal. Monthly mean, 69.5; highest monthly mean, 79, at Union Springs; lowest monthly mean, 63, at Valley Head; maximum, 95, at Elkmont, 9th; minimum, 37, at Elkmont, 23d; range for state, 58; greatest local monthly range, 58, at Elkmont; least local monthly range, 34, at Union Springs.

Precipitation.—The month has been exceedingly dry, but little rain falling before the close of the month. On the 13th a slight precipitation occurred, produced by the effects of the low wave that passed across the middle part of the United States. The heaviest precipitation was developed on the 29th and 30th, when an excellent fall of rain occurred, producing a fine effect upon the suffering crops. The average precipitation for the month was small, being 2.23 below the normal. Average for the state, 1.95; greatest, 4.64, at New Market; least, 0.05, at Bermuda.

Wind.—Prevailing direction, northwest.—*P. H. Mell, Signal Corps, Auburn, director.*

ARKANSAS.

SUMMARY.

Temperature.—Monthly mean, 68.1; highest monthly mean, 74.0, at Washington; lowest monthly mean, 61.9, at Dallas and Heber; maximum, 93, at Helena, 17th–18th; minimum, 34, at Melbourne, 3d; range for state, 59; greatest local monthly range, 60, at Lead Hill; least local monthly range, 39, at Alexander.

Precipitation.—Average for the state, 2.86; greatest, 5.81, at Melbourne; least, 0.91, at El Dorado.—*Prof. John C. Branner, Little Rock, director; W. U. Simons, Sergeant, Signal Corps, assistant.*

ILLINOIS.

SUMMARY.

Temperature.—Monthly mean, 61.0; maximum, 94, 9th, 10th, and 11th; minimum, 26, 2d; mean of maximum, 90.4; mean of minimum, 35.2; monthly mean of maximum and minimum, 62.8.

Precipitation.—Average monthly for the state, 4.98.

Wind.—Prevailing direction, southwest.—*John Craig, Sergeant, Signal Corps, Springfield, in charge.*

INDIANA.

SUMMARY.

Temperature.—May, 1889, was, in general, a cool month, resembling that month in 1888, 1885, and 1883. The mean temperature was 3.9 below the normal for eighteen years, and 1.4 below that of seven years. The range in temperature was large, the mean daily range being 20. Periods of excessively high temperature occurred from the 7th to 11th, with the maximum temperature 90, and slightly higher, at nearly all stations on the 9th and 10th, and from the 16th to 18th. Very cool weather prevailed from the 1st to 3d, 21st to 23d, and 29th to 31st. Moderate hoar frost formed from the 1st to 6th at many stations in the southern part of the state, and ice formed in some localities of that section on the 2d and 3d, and in the central portion, 23d. Monthly mean, 60.7; highest monthly mean, 64.8, at Jeffersonville; lowest monthly mean, 57.3, at Columbia City; maximum, 93, at La Fayette, 10th; minimum, 25, at Delphi, 3d; range for state, 68; greatest local monthly range, 64, at New Providence; least local monthly range, 45, at Butlerville.

Precipitation.—The rains on the 29th and 30th were quite heavy and continuous in the central portion of the state. The amount of precipitation for the month is, with few exceptions, from 1.00 to 3.00 above the normal; the average precipitation for the state is 1.28 above the normal. The greatest amount fell in the northern portion, and the least in the southern, but that the rainfall was not equally distributed in various localities is indicated by the comparatively small amounts measured, and deficiencies at Worthington and Farmland, the one in the southern, the other in the central, portion. Average for the state, 5.50; greatest, 7.25, at Delphi; least, 2.90, at Worthington. The drought which preceded the month was ended, at most stations, by moderate rains on the 11th and 12th, and from the 19th it rained nearly every day, and in the latter part of the month was accompanied by exceptionally cool temperature.

Wind.—Prevailing direction, southwest.—*Prof. H. A. Huston, La Fayette, director; C. F. R. Wappenhans, Sergeant, Signal Corps, assistant.*

IOWA WEATHER CROP BULLETIN SERVICE.

The month was generally favorable to crops throughout the state, the temperature being slightly above and the rainfall nearly normal. Frost was reported on the mornings of the 1st, 2d, 3d, 21st, 22d, and from the 28th to the 31st. The resultant damage, however, was not extensive; corn and potatoes on low ground were injured to some extent, and some of the more tender garden vegetables were killed.

SUMMARY.

Temperature.—Monthly mean, 59.1; highest monthly mean, 64.9, at Wash-

ington; lowest monthly mean, 51.1, at Fayette; maximum, 92, 9th, at Washington and at Glenwood, 8th; minimum, 26, at Wesley, 1st and 31st; range for state, 66; greatest local monthly range, 62, at Iowa City and Logan; least local monthly range, 33, at Gillett.

Precipitation.—Average for the state, 4.58; greatest, 8.54, at Dunkerton; least, 1.95, at Wesley.—*G. M. Chappel, Sergeant, Signal Corps, Des Moines, in charge, Iowa Weather Crop Bulletin Service.*

KANSAS.

SUMMARY.

Temperature.—The mean temperature for the state, 62.9, is slightly below the May normal. In the eastern division it is deficient, ranging from 1 below the normal in the northern portion to 2 below in the southern portion. In the central division it is about normal, while in the western it ranges from 1 above in the southern counties to about 2 below in the northern. Highest monthly mean, 70.9, at Ellsworth; lowest monthly mean, 55.3, at Grainfield; maximum, 100, at Gibson, Hugoton, and Offerle, 22d; minimum, 26, at Concordia, 3d; range for state, 74; greatest local monthly range, 72, at Gibson; least local monthly range, 42, at Sedan; greatest daily range, 52, at Gibson, 22d; least daily range, 2, 17th, at Seneca.

Precipitation.—The average precipitation over the state is 5.48, and is excessive. The largest excess extends diagonally across the state from the northwest to the southeast, culminating in McPherson and Coffey counties, where it reaches the decidedly unusual amount of 11.00 and 12.00, respectively. Northeastward from this belt the rainfall diminishes, being 5.00 and 6.00 in Franklin and Shawnee counties, respectively; it then rapidly increases to 9.00 and upwards in Johnson and Leavenworth. Another decided excess occurs in Chautauqua, where 11.00 fell. Southwest of the "excess belt" the excess rapidly changes to a deficiency, which culminates in the extreme southwestern counties, where less than 1.00 fell during the month. During the month a greater part of the rain fell on the 10th, 11th, 12th, 23d, 24th, and 28th. Greatest, 12.14, at Lebo; least, 0.20, at Hugoton.

Wind.—Prevailing direction, south.—*Prof. J. T. Lovewell, Topeka, director; T. B. Jennings, Sergeant, Signal Corps, assistant.*

KENTUCKY.

SUMMARY.

Temperature.—The mean temperature of the state, as deduced from the tri-daily observations, was 63.6, and from the average of the maximum and minimum temperatures, 63.8. These figures indicate a deficiency of about 2 less than the normal. Highest temperature, 94.4, at Frankfort, 10th; lowest, 28, at Shelbyville, 4th; greatest monthly range, 63.4, at Frankfort; least, 45, at Ashland and Franklin.

Precipitation.—The average rainfall for the state, 4.03, is very slightly in excess of the normal. Greatest amount, 5.44, at Franklin; least, 2.46, at Palmouth. The rain was very unevenly distributed throughout the month; none at all was recorded up to the 10th, and from that date the showers were very light and scattering. On the 30th and 31st, tremendous rains fell in all parts of the state; the average amount for those two days probably exceeding 3.00. This largely reduced the existing deficiency, but at the central station on June 1st more than 8.00 was still required to bring the rainfall to the normal amount since January 1st.

Wind.—Prevailing direction, southwest.—*Dr. E. A. Grant, Louisville, director; Frank Burke, Sergeant, Signal Corps, assistant.*

LOUISIANA.

The month was characterized by a greatly deficient rainfall, the least on record for the month for the state; absence of rainy days; low temperature in the earlier and latter parts of the month, and a warm and dry period from the 5th to the 28th. The dates of general rains in the northern portions of the state were the 1st, 13th, 18th, and 29th.

SUMMARY.

Temperature.—Monthly mean, 72.2; highest monthly mean, 75.2, at Cameron; lowest monthly mean, 68.0, at Donaldsville; maximum, 101, at Cameron, 27th; minimum, 40, at Lake Providence, 3d; range for the state, 61; greatest local monthly range, 55, at Clinton; least local monthly range, 25, at Port Eads; mean daily range, 24.1.

Precipitation.—Average for the state, 1.04; for the northern section, 1.62; southern section, 0.66; greatest local monthly rainfall, 3.11, at Coushatta; least, 0.06, at Baton Rouge; greatest daily rainfall, 1.88, at Shreveport, 18th.

Wind.—Prevailing direction, south.—*R. E. Kerkam, Sergeant, Signal Corps, New Orleans, in charge.*

MICHIGAN.

The most remarkable feature of the month was the storm of the 29th–30th. This storm, which was central over the state on the 30th, was accompanied by heavy rain, and on the morning of the 30th by snow. The rainfall averaged over 8.00 for the south half of the state for the two days, many stations reporting a fall of over 2.50 in twenty-four hours.

SUMMARY.

Temperature.—The mean temperature for the month, 54.0, is 2.6 below the

normal of fourteen years. Highest monthly mean, 58.5, at Marshall; lowest monthly mean, 46.5, at Calumet; maximum, 93, at Gladwin, 18th; minimum, 20, at Bellaire, 28th, range for the state, 73; greatest local monthly range, 72, at Gladwin; least local monthly range, 46, at Fremont; greatest daily range, 53, at Evert, 12th; least daily range, 2, 29th, at Mottville.

Precipitation.—The average precipitation, 4.08, is 0.68 above the average of fourteen years; greatest, 7.32, at Standish; least, 1.16, at Marquette.

Wind.—Prevailing directions, southwest and northwest.—*N. B. Conger, Sergeant, Signal Corps, Lansing, director.*

MINNESOTA.

In the northwestern part of the state the monthly mean temperature coincided with the normal, in the western-central portion there was a deficiency of 1, and in the southern and southeastern counties the month was from 3 to 4 cooler than usual. Along Lake Superior the temperature was slightly in excess. The frosts from the 28th to 31st damaged potatoes and other vegetables, and cut or hindered the growth of corn. There was only about 60 per cent. of the usual precipitation for the season. The rains, however, were beneficial and timely. Some of the local deficiencies are as follows: Saint Paul and Minneapolis, 14 per cent.; La Crosse, Wis., 28; Moorhead, 41; Duluth, 46; and Saint Vincent, 71.

SUMMARY.

Temperature.—Monthly mean, 54.2; highest monthly mean, 57.6, at Red Wing; lowest monthly mean, 46.3, at Pokegama Falls; maximum, 88, at Morris, 6th; minimum, 17, at Pokegama Falls, 28th; range for state, 71; greatest local monthly range, 67, at Moorhead; least local monthly range, 43, at Minneapolis; greatest daily range, 47, at Saint Vincent, 3d; least daily range, 4, at Duluth, 14th.

Precipitation.—Average for the state 1.95; greatest, 3.06, at Minneapolis; least, 0.81, at Saint Vincent.

Wind.—Prevailing direction, northwest.—*Prof. W. W. Payne, Northfield, director; John Healy, Private, Signal Corps, Saint Paul, assistant.*

MISSISSIPPI.

SUMMARY.

Temperature.—During the first three days of the month the mean temperature throughout the state was between 58 and 60, the maximum and minimum being about 70 and 50. After the 3d the mean temperature remained nearly 73, until the 16th, when there was a rise to 80, succeeded by a fall to 68, on the 21st, and then an average mean of 74, until the 30th. On the 31st the mean throughout the state was about 55. The mean temperature for the state was 70, the normal being 72.3. The local daily range of temperature was never less than 10, and generally between 18 and 28. The mean maximum temperature for the state was 82.6, and the mean minimum, 57.9. Remarkably slow changes in temperature occurred except at the very last of the month. Many stations report the same mean temperature on the 3d, 4th, 8th, 9th, 10th, 19th, 26th and 27th. Light frost was reported at some stations in the northern part of the state on the 2d, 3d and 4th, and generally in the central and northern parts on the 31st. No damage resulted.

Precipitation.—The average rainfall for the state was 1.31, the normal being 4.15. The rains were badly distributed, varying in quantity from 4.03, at Greenville, to 0.45, at Waynesborough. At nearly all stations the deficiency was seriously felt in delaying the growth of crops. The deficiency for the month is 2.84, and for the year, 11.70 throughout the state. Long records seem to show that the May rainfall is more variable than that of any other month in Mississippi. Amounts less than the above fell in May, 1874, and 1886. No rain exceeding 1.50 in twenty-four hours was reported.—*R. B. Fulton, Signal Corps, University, director.*

MISSOURI.

SUMMARY.

Temperature.—The mean temperature for May was 64.6. The highest reported in the state was 96, at Protem, and the lowest, 28, at Ozark. The average of maximum temperatures was 88.6, and the average of minimum temperatures 38, making an average range of 50.6. The highest temperatures occurred on the 6th to 10th, 15th, 16th and 23d, and the lowest on the 1st, 2d, 3d, 17th, 23d, 30th and 31st.

Precipitation.—The average precipitation, 6.42, is 2.87 above the May normal; greatest, 10.70, at Shelby; least, 2.75, at Oak Ridge. In the state precipitation occurred on twenty-four days. The greatest number of days of precipitation in any one place was fifteen at Oregon.—*Prof. Francis E. Nipher, Saint Louis, director; W. H. Hammon, Sergeant, Signal Corps, assistant.*

NEBRASKA.

SUMMARY.

Temperature.—The temperature of the month for southeastern Nebraska was 62.1, which is only slightly above the normal. There were less than the usual number of hot days, while there has been an almost entire absence of freezing weather, only slight damage to vegetation being anywhere reported in the state.

Precipitation.—The rainfall for May shows considerable resemblance to that for April; the region of the least rainfall in both cases is in the central part of the state. At Ravenna the normal rainfall for the two months for twelve years is 6.4; for the past two months it has amounted to 3.5. At North Loup, where the rainfall for the past month was less than 1.00, it increased rapidly and somewhat regularly to the southeast, reaching a maxi-

mum of nearly 8.00, at Fairbury. The northwestern part of the state has received about 3.00. There has not been so great a deficiency in rainy days as in amount of rain, except in a limited area in the central part of the state.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Corporal, Signal Corps, assistant.*

NEVADA.

The remarkable features of the weather during the past month were the heavy storms of the 5th to 8th and 16th to 17th, the remainder of the month being attended with fine spring-like weather. The storm on the 5th, which was general throughout the state, is the heaviest on record for the past ten years, and was characterized by unusually cold weather and very heavy rainfall in all sections.

SUMMARY.

Temperature.—The mean temperature, 57.8, was a trifle below the average. The warm periods were from the 24th to the 29th; the highest temperature for the state, 106.0, occurring on the 28th and 29th, at El Dorado Canyon. There were two cold periods, from the 6th to 8th and from the 16th to 17th. The lowest temperature reported, 20.0, occurred at Wellington, 8th, and at Ruby Hill, 16th. The total range of temperature between the warmest and coldest stations was 86.

Precipitation.—The rainfall throughout the state was greatly in excess of the average, and was particularly so in the northern and western counties. The long-continued drought which threatened this section of the country for some time past has at last been broken; the aspect of the country has been entirely changed, and crops of all kinds have been materially improved. The prospects are at present more encouraging than they have been at any time this season.—*Prof. Chas. W. Friend, Carson City, director; H. F. Alciatore, Private, Signal Corps, assistant.*

NEW ENGLAND METEOROLOGICAL SOCIETY.

The month of May, 1889, may be characterized as generally warm and moist, with an absence of high winds, an undue amount of fog on the coast, and a small number of thunder-storms.

The temperature, while generally high, showed marked extremes. Readings above 90 were numerous on the 9th and 10th, and light frosts occurred on the 26th and 29th. The average for the month is about 2 above the normal.

SUMMARY.

Temperature.—Monthly mean, 59.2 (103 stations); highest monthly mean, 64.8, at Hartford; lowest monthly mean, 48.7, at Eastport; maximum, 98, at Westborough, 9th; minimum, 25, at Berlin Falls, 13th; range for New England, 73; greatest local monthly range, 71, at Berlin Falls; least local monthly range, 29, at Nantucket; greatest daily range, 55, at Berlin Falls, 13th; least daily range, 1, at Nantucket, 26th. The average temperature for May for 24 stations, having records for more than 10 years, is 55.6; the average for May, 1889, is 58.5; departure, +2.9.

Precipitation.—Average for New England, 3.57 (132 stations); greatest, 6.45, at Newburyport; least, 1.50, at Pomfret. The average precipitation for 31 stations, having records for more than 10 years, is 3.54; the average for May, 1889, is 3.89; departure, +0.35.

Wind.—Prevailing direction, southwest (23 stations).—*Prof. William H. Niles, Boston, Mass., president; Prof. Winslow Upton, Providence, R. I., secretary; L. G. Schultz, Sergeant, Signal Corps, assistant.*

NEW JERSEY.

SUMMARY.

Temperature.—The mean temperature for May, 1889, 62.3, is 2.6 above the average for the month, and 9.9 above the average for the corresponding month of 1888. The warm periods were from the 5th to 11th and 16th to 18th, inclusive. The highest temperature during the month was recorded at all stations on the 10th, and ranged from 87 to 94. The first four days of the month were the coolest, several stations reporting light, harmful frosts on these dates. Highest monthly mean, 67.0, at Trenton; lowest monthly mean, 58.0, at Atlantic City; maximum, 94.0, at Tenafly, 10th; minimum, 32.0, at Allaire, 2d; range for state, 62.0; greatest local monthly range, 59.0, at Tenafly; least local monthly range, 40.0, at Readington; greatest daily range, 46.0, at Plainfield and Tenafly, 5th and 9th, respectively; least daily range, 1.0, at Billingsport, Moorestown, and Oceanic, 27th.

Precipitation.—The average precipitation for the state, 4.09, is 0.35 above the average for the month, and is 0.83 below the average for the corresponding month of 1888; greatest, 6.60 at Bridgeton; least, 2.43 at Newark. Very little rain fell during the first nineteen days, during which time the growing crops were in a flourishing condition in all parts of the state. The last twelve days were unusually wet and unfavorable for farming operations.

Wind.—Prevailing direction, northwest and southwest. The high winds during the month caused considerable damage.—*Prof. George H. Cook, New Brunswick, director; E. W. McGinn, Sergeant, Signal Corps, assistant.*

NEW YORK.

SUMMARY.

Temperature.—Highest temperature, 95, at Utica, 18th; lowest, 26, at Number Four, 4th, and at Alfred Centre, Angelica, and Arcade, 29th. Mean temperature for the state, 58.5. The 18th was the hottest and the 3d the coldest day. The temperature was generally above the average excepting at Buffalo, where it was 0.2; Central Park, 2.9; Utica, 4.1, and Le Roy, 0.1 below.

Precipitation.—The average precipitation for the state was 3.15. The rainfall was above the average except at Ardenia, where it was 0.94; Boyd's Corners,

1.96; Buffalo, 0.29; Erie (Pa.), 0.87; Ithaca, 1.03; Le Roy, 0.20; Oswego, 1.07; Palmaro, 1.47; Rochester, 0.60; Utica, 0.87, and White Plains, 1.19 below. Snow fell at Friendship on the 1st, and at Humphrey and Middleburgh on the 2d. The average number of days on which the precipitation was 0.01 or more of rain or snow was 11.

Wind.—Prevailing direction, south.—*Prof. E. A. Fuertes, Ithaca, director; I. W. Brewer, Private, Signal Corps, assistant.*

NORTH CAROLINA.

SUMMARY.

Temperature.—Monthly mean, 67.8; highest monthly mean, 74.7, at Southern Pines; lowest monthly mean, 62.2, at Hot Springs; highest temperature, 98, at Southern Pines and Fayetteville, 11th; lowest temperature, 30, at Asheville, 4th; range for state, 68.

Precipitation.—Monthly average for the state, 4.53; greatest monthly, 8.48, at Weldon; least, 2.54, at Kitty Hawk.

Wind.—Prevailing direction, north.—*Dr. Herbert B. Battle, Raleigh, director; H. McP. Baldwin, Private, Signal Corps, assistant.*

OHIO.

SUMMARY.

Temperature.—The mean of the northern section was 58.7; of the middle section, 60.4, and of the southern section, 61.7; these means are 0.4, 0.4, and 1.2 below the averages for the sections. The mean for the state, 60.2, is 0.7 below the average for May. The maximum temperature was 96 at Wapakoneta, 10th, and the minimum, 25.6, at Wauseon, 1st. The greatest daily range was 50, at Logan, 9th, and the smallest, 3.9, at Sidney, 30th.

Precipitation.—Precipitation was general and heavy in all sections on the 11th, 13th, 14th, 19th, 20th, 22d, 27th, 29th, 30th, and 31st; in the northern section on the 10th and 21st, and in the southern section on the 23d, 24th, and 25th. Local rains occurred in the northern and middle sections on the 12th. About one-half the rainfall for the month fell during the last three days. Snow was reported from Greenville, Upper Sandusky, Bangorville, and Fostoria on the 22d, and hail from stations in the northern section on the 10th, 11th, and 14th; in the middle section on the 10th, 22d, and 27th, and in the southern section on the 13th, 22d, and 27th. The mean rainfall for the month in the northern section was 3.95; in the middle section, 3.78, and in the southern section, 3.35. The rainfall in the northern section was 0.12 above the average. In the middle and southern sections the means are 0.57, and 0.71 below the averages for the sections. The mean for the state, 3.71, is 0.38 below the average for May. The deficiency in rainfall for the year to June 1st amounts to 1.66 in the northern section; 4.95 in the middle section, and 6.97 in the southern section. The deficiency for the state amounts to 4.42.

Wind.—Prevailing direction, south.—*Prof. B. F. Thomas, Columbus, director; Lieut. Charles E. Kilbourne, secretary; C. M. Strong, Corporal, Signal Corps, assistant.*

PENNSYLVANIA.

SUMMARY.

Temperature.—The mean temperature for May, 1889, 62.0, is 1 above the average. The warmest period of the month occurred on the 9th, and the coldest on the 2d, 4th, and 29th. Frosts were general throughout the state on these dates. The highest temperatures reported were Carlisle, 96; Hollidaysburg, Reading, Coatesville, and York, 94. The lowest temperatures were Emporium, 25; New Castle, Columbus, and Dyberry, 26. The highest mean monthly temperatures were Indiana, 68.3; Annville, 66.5, and Emporium, 64.5. The lowest were Wellsborough, 55.1; Columbus, 56.0; Dyberry, 56.3.

Precipitation.—The average rainfall over the state during the month was 5.91, which is an excess of over 2.00. Had it not been for the phenomenal rainfall of the 31st, there would have been a deficiency in the western and middle portions of the state. The largest totals for the month were McConnellsburch, 12.41; Grampian Hills, 11.60; Charlesville, 11.07; Harrisburg, 9.51; Smethport, 9.21, and Selin's Grove, 9.20. The excessive and unprecedented rainfall of the 31st, which caused disastrous floods, was at Grampian Hills, 8.37; McConnellsburch, 7.08; Charlesville, 6.71; Selin's Grove, 6.00; Emporium, 5.85; Smethport, 5.50; Hollidaysburg, 5.12, and Harrisburg, 4.66. In the southeastern portion of the state the fall was very light on this date, many stations reporting less than 0.10. From the 1st to the 10th there was a general absence of rain. From this time to the end of the month rains occurred almost daily at some stations. On the 31st the central portion of the state was visited by one of the greatest rainfalls and floods ever known in this country for magnitude and destructiveness. Large sections were flooded, whole towns and cities were swept away; thousands of people drowned, and millions of dollars in property destroyed. It is estimated that from six to eight inches of rain fell in twenty-four hours over a large area of the central part of the state.

Wind.—Prevailing direction, west.—*Under direction of the Franklin Institute, Philadelphia; T. F. Townsend, Sergeant, Signal Corps, assistant, in charge.*

SOUTH CAROLINA.

SUMMARY.

Temperature.—The mean temperature, 71.7, is 0.2 above the normal; greatest monthly mean, 74.9, at Florence; lowest monthly mean, 68.5, at Trial; maximum, 101, at Chester, 11th; minimum, 35, at Cedar Springs, 4th, and George's, 5th. Range for the state, 66; greatest local monthly range, 63, at George's; least local monthly range, 41, at Camden.

Precipitation.—The average for the state, 1.97, is 2.25 below the normal; greatest, 5.64, at Florence; least, 0.45, at Beaufort; greatest daily rainfall, 4.92, at Florence, 31st. Average number of rainy days, 4.8.

Wind.—Prevailing direction, northwest.—*Hon. A. P. Butler, Columbia, director; H. C. Seymour, Private, Signal Corps, assistant.*

TENNESSEE.

The month of May had several abnormal features, among which were the periods of low temperature during the first week and the last two days, both resulting in frost; the high winds which prevailed at various times during the month, and the heavy rainfall during the last week. The percentage of cloudiness was below the normal.

SUMMARY.

Temperature.—The mean temperature, 64.7, is slightly below the average for the past seven years. The highest local monthly mean was 71.2, at Woodstock, and the lowest was 60.1, at Cog Hill. The highest temperature observed was 92, on the 17th at Watkins, Hohenwald, and Bolivar, and the lowest was 30, on the 4th at Rogersville. This was the lowest May minimum during the past seven years, except that of last year which was the same, and was also the same as the April minimum of last year. The highest temperature was generally recorded on the 10th in the eastern division, and on the 17th in the middle and western divisions, while the lowest was recorded generally on the 3d, 4th, and 31st. The daily ranges of temperature were in excess of the normal for May.

Precipitation.—The average amount of rainfall during the month was 3.80, a little less than the May average for the past seven years. Of this amount the eastern division received an average of more than 4.50, the middle division about 4.00, and the western about 2.50. The larger proportion of this fell on the 25th, 29th, and 30th. The greatest rainfall occurred on the 29th and 30th, when an average of nearly two inches fell throughout the state. The rains of the 1st, 12th, 13th, 25th, 29th, and 30th were general; that of the 18th was confined principally to the middle and western divisions; that of the 19th principally to the middle and eastern divisions, and that of the 26th to the eastern division; the others were generally light, local rains. The greatest local monthly rainfall was 6.89, at Kingston, and the least was 1.48, at Memphis. The greatest local daily rainfall was 3.52 on the 30th, also at Kingston, which station showed the remarkable amount of 4.52 inches on the two days—29th and 30th.

Wind.—Prevailing directions, south and southwest.—*J. D. Plunket, M. D., Nashville, director; H. C. Bate, Signal Corps, assistant.*

TEXAS.

SUMMARY.

Temperature.—The mean temperature for May was highest over the southwestern portion of the state, where it rose to 75, at Brownsville, and no point along the coast west of Galveston, where the mean is 73, reports a mean less than 74. Means above 70 were reported in the eastern portion of the state as far north as the thirty-third parallel. In the western portion of the state, Silver Falls and El Paso each reported a mean of 73. The mean temperature was generally from 2 to 4 below the normal over the state, except over the Panhandle and the extreme western portion, where an excess of from 2 to 4 was reported. The highest temperature reported was 102, at Pecos City, 14th, and the lowest, 34, at Silver Falls, 1st.

Precipitation.—The rainfall has been deficient over the entire state, with the exception of a strip about fifty miles wide along the coast between Columbia and Corpus Christi, where reports show an excess ranging from 1.00 to 3.00. The greatest departure from the normal is over that section north of the twenty-ninth parallel and east of the ninety-eighth meridian, where the deficiency ranged from 2.00 to 4.00. Over that section between the ninety-eighth meridian and the one hundred and second meridian the deficiency ranged from 1.00 to 2.50, being greatest over the east half of the Panhandle. The rainfall over that portion of the state west of the one hundred and second meridian did not exceed 0.05. General and well distributed rains fell over the state from the 16th to 19th, and from the 24th to 29th.—*S. O. Young, M. D., Galveston, director; I. M. Cline, Sergeant, Signal Corps, assistant.*

Meteorological record of Army post surgeons and voluntary observers, May, 1889.

Stations.	Temperature. (Fahrenheit.)			Precip'n.		Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.				Max.	Min.	Mean.	
<i>Alabama.</i>						<i>Alabama—Cont'd.</i>				
Auburn.....	89	45	70.1	1.52		Montest.....	87	38	68.7	4.11
Bermuda f.....	90	45*	67.8	0.05		Mt. Vernon B'ks... 93	42	67.0	2.62	
Centre.....	88	42	65.0	0.75		Mount Willing f*.. 88	45	69.8	1.05	
Citronelle f.....	95	42	71.3	2.32		New Market f..... 89	37	65.1	4.64	
Columbiana f.....	91	27	67.8	0.80		Opelika f.....	94	44	71.4	1.40
Decatur (1) f.....			2.00			Pine Apple f.....	96	40	70.7	0.03
Decatur (2) f.....	94	31	66.0	1.16		Selma f.....	93	43	71.4	1.03
Elkmount f.....	95	37	66.5	2.42		Talladega.....	88	42	70.6	1.90
Eufaula f.....	91	42	70.5	1.15		Troy f.....	91*	41	72.8	1.42
Florence.....	86	46	64.4	2.43		Tuscaloosa.....	87	41	72.5	2.22
Fort Deposit f.....	93	42	71.2	1.33		Tuscumbia (1) f.....	92	45	66.9	2.48
Gadsden f.....	92	38	68.7	1.60		Tuscumbia (2).....	91	32	65.8	1.504
Greensborough.....	90	42	70.7	0.61		Union Springs.....	92	45	79.0	1.23
Livingston (1) f.....	91	42	69.2	0.69		Uniontown.....	90	41	72.9	0.10
Livingston (2) f.....	90	41	71.4	0.34		Valley Head f.....	90	34	62.5	3.44
Marion f.....	91	37	68.3	0.37		Wiggins.....	96	42	70.9	1.57